

FACT SHEET FOR NPDES PERMIT WA0022918

FACILITY NAME Atlas Foundry

SUMMARY

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program. Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC and Chapter 173-216 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit.

One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Atlas Castings and Technology
Facility Name and Address	3021 S. Wilkeson Street, Tacoma, Washington, 98409
Type of Facility:	Steel Foundry (molding and casting): carbon steel, low alloy steel, stainless steel, and nickel base alloy castings.
SIC Code	3325
Wastewater addressed in this permit	Storm water
Discharge Location	Onsite infiltration : (Lat: 47° 14' 01" N, Long: 122° 27' 37" W) Bypass: Thea Foss Waterway (Lat: 47° 13' 58" N, Long: 122° 27' 36" W)
Water Body ID Number	Thea Foss Waterway: WA-10-0020

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

Atlas Foundry & Machine Company (Atlas) operates a metal molding and casting facility in Tacoma, Washington (Appendix D, Vicinity Map). Atlas historically discharged storm water via three outfalls (001, 002, and 003) to City of Tacoma storm drains and through these drains to the head of Thea Foss Waterway. The Department of Ecology (Ecology) authorized this discharge under NPDES Permit No. WA-002291-8 issued on May 8, 1998.

In April, 1999, Atlas submitted an engineering report to Ecology, consistent with NPDES permit condition S8, to re-route storm water to an infiltration pond with an engineered sand bed to filter stormwater, with discharge to ground and eventually to groundwater. Atlas submitted an application for a State Waste Discharge permit with the proposal. Ecology approved the engineering report and a supplemental engineering report on April 14, 2000, and February 5, 2001, respectively.

Atlas completed construction of the basin and commenced discharges to ground in the spring of 2002, consistent with Permit Condition S1.B that required Atlas to meet final effluent limits within 1 year of Ecology's approval of the engineering report. The existing discharge to ground is permitted now as a matter of statute under RCW 90.48.200.

This permit establishes effluent limits for the discharge to ground and to surface waters during bypass. Bypass to storm drains and surface water may occur to prevent flooding of the foundry. Atlas expects these bypass discharges to occur when storms produce runoff larger than the design storm of the onsite stormwater conveyance system. Engineers estimate that the conveyance system can handle runoff from storms at least as large as the 2-year, 24 hour storm, and potentially as large as the 10-year, 24-hour storm. The infiltration basin is sized for the 25-year, 24 hour storm to provide an added factor of safety to the design.

There is no process wastewater discharge from the site. Until recently, Atlas discharged process wastewater from the quench tanks to City of Tacoma sanitary sewer under a pretreatment permit issued by the City. Atlas has stopped these discharges.

INDUSTRIAL PROCESS

Atlas manufactures cast steel products using scrap metal, chromium and nickel as raw materials in a sand casting process. In this process, Atlas constructs a silica sand mold and core in the shape of the final product, melts the raw material supply in an electric furnace, and casts the molten material in the molds. Atlas then cools the castings (primarily air cooling) and cleans them by cutting, sand-blasting, and grinding. Some castings are heat-treated in ovens, after which they undergo controlled cooling in quench tanks. Many castings are for critical applications, including defense contracts, and demand a high level of quality assurance and quality control (QA/QC). QA/QC activities include the use of metallurgy and radiography laboratories, and the use of dyes and magnetic particles for flaw testing.

Atlas recently discontinued use of chromite sand as the primary sand in the production process. Previously, approximately one-third of the sand Atlas used was chromite sand, but that amount is now down to less than 1%. The company reclaims its casting sand off-site using a thermal process but expects to reclaim sand on site in the future. Other solid wastes include spent refractory materials, waste casting sand, bag house dust (arising from air pollution control), and refractories from ladle renovation.

DISCHARGE OUTFALL

Atlas routes stormwater from former outfalls 001, 002, and 003 to an onsite infiltration basin located on the east side of the property; the basin discharges to ground. These three outfalls can discharge individually to the city storm sewer with manual operation of bypass valves if runoff exceeds conveyance system capacity. Such bypass flows would discharge via the Center Street main to the "twin 96'ers" at the head of the Thea Foss Waterway. The three outfalls drain approximately 266,000 square feet (6 acres) of paved property.

TREATMENT PROCESSES

Atlas controls pollutants in stormwater through implementation of best management practices (BMPs) and a treatment system consisting of an oil/water separator and an infiltration basin containing an engineered sand bed. These practices control particulate matter; the dissolved fraction of metals likely infiltrates to ground. Metal adsorption of the dissolved fraction onto soil (and within the engineered sand bed) depends upon retention time, metal concentration, type of metal and soil cation exchange capacity (CEC). Soil at the site consists of gravel (67.5%), sand (27.9%), and silt (4.6%). The CEC of the soil is low, approximately 6 meq/100g. Silt and fines in the engineered sand bed should assist adsorption.

The discharger's engineer analyzed the time for breakthrough, when concentrations of metals entering groundwater will equal the concentration discharging to the basin. Until breakthrough, soil and fines bind some fraction of the dissolved metals and limit their discharge to groundwater. The engineer's analysis, for individual metals in isolation, suggests that the time until breakthrough varies by metal from 5 to 10 years for copper and close to 3000 years for nickel, with breakthrough for other metals falling between these two.

The predicted breakthrough times in the soil column are for comparative purposes only and do not indicate actual breakthrough times for the matrix of metals in the water. Thus, Atlas will monitor the discharge to the pond as well as to groundwater to confirm that discharges to groundwater are within limits. Monitoring the discharge to the pond will confirm that the discharge concentrations do not exceed those used in predicting breakthrough and confirm the continued effectiveness of the BMPs. Groundwater monitoring will ensure compliance with groundwater standards and allow the permittee to react to "early warning values," discussed later in the factsheet.

GROUND WATER

Atlas installed three monitoring wells on the property on August 20, 1998. Lithology is generally consistent across the wells. Subsurface material consists of graded gravel with sand and some silt from 0 to 20 feet below ground surface (bgs) and poorly graded medium sand below 25 bgs. The contact between the two strata is gradational rather than abrupt. Groundwater exists at about 25 feet bgs but the depth to groundwater likely varies seasonally, rising during the winter/rainy season and falling during summer. The groundwater gradient is approximately 0.01 ft/ft to east (August 1998) and southeast (February 1999). Cation exchange capacity (CEC) of soil at a depth of 3 feet and 15 feet is 5.4 meq/100g and 6.7 meq/100g, respectively. The percolation rate through surface soil is 1.6 minutes per inch or 37.5 inches per hour.

Atlas installed three wells in early 2002 next to the infiltration basin. Groundwater data from the wells shows that where present, metal concentrations are low (Table 1).

Table 1 Concentrations of Pollutants in Groundwater (April 2002)

Parameter	MW-2A		MW-3A		MW-4A	
	Total	Dissolved	Total	Dissolved	Total	Dissolved
Cadmium (ug/L)	<3	<3	<3	<3	<3	<3
Hex Chromium (ug/L)	<10	----	<10	----	<10	----
Copper (ug/L)	<6	<6	6	<6	<6	10
Lead (ug/L)	<1	<1	<1	<1	<1	<1
Mercury (ug/L)	<0.2	<0.2	0.2	<0.2	<0.2	<0.2
Nickel (ug/L)	<15	16	16	16	15	22
Silver (ug/L)	<2	<2	<2	<2	5	<2
Zinc (ug/L)	12	11	7	12	7	<6
pH (s.u.)	6.0		6.09		6.28	
Oil and Grease (mg/L)	<2		<2		<2	

PERMIT STATUS

The previous permit for this facility was issued on May 8, 1998. The permit authorized the stormwater discharges to the Thea Foss Waterway via City of Tacoma storm sewers and the “Twin 96ers” at the head of the waterway. The previous permit placed effluent limitations on storm water discharge at all the outfalls 001, 002, and 003 (Table 2).

Table 2 Previous Permit's Limits for Discharge to Surface Waters.

<u>Parameter</u>	<u>Average Monthly</u>	<u>Maximum Daily</u>
Oil and Grease, mg/L	10	15
pH		Within the range of 6 to 9
Copper, µg/L		4.8
Silver, µg/L		2.2
Nickel, µg/L		75
Zinc, µg/L		95

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

In the previous permit, Ecology deferred final compliance with effluent limitations for metals unit one year after approval of an engineering report for facility improvements. Those limits only recently went into effect, and they apply to discharges to Foss Waterway. Atlas is now discharging to ground, consistent with their most recent permit application. Ecology required compliance with Oil & Grease and pH limits within 6 months and one year, respectively, of the permit effective date (May 8, 1998). Atlas has largely been in compliance with pH and Oil & Grease limits. However, until recently, inspectors have noted numerous violations of permit source control requirements. More recently, Atlas completed several facility refurbishment projects aimed at controlling fugitive sand and eliminating zinc and particulates in roof run-off. Ecology inspected the facility most recently on April 2002 and concluded that Atlas' source control efforts were greatly improved compared to previous inspections.

WASTEWATER CHARACTERIZATION

Atlas samples stormwater discharges monthly for metals, pH, and oil and grease (Table 3). Metal concentrations in the discharge can vary over two orders of magnitude. Concentrations of cadmium, chromium, silver, mercury and chromium in stormwater were generally below laboratory method detections limits during the last two years. Atlas also sampled its discharge for bis (2-ethylhexyl) phthalate (BEP) in 2000 as part of a basin-wide characterization effort. For Outfalls 001, 002, and 003, concentrations were 32 (J) µg/L, 12 µg/L and 7(J) µg/L, respectively.

Table 3 Total Metals (ug/l), pH (standard units) and Oil and Grease (mg/l) in Stormwater (µg/L,

Parameters →	Cd	Cr⁺⁶	Cu	Pb	Hg	Ni	Ag	Zn	pH	Oil & Grease
Average	3	10	144	16	0.2	181	2	765	7.6	4
Maximum	3.5	20	590	58	<0.2	712	4	1466	8.9	11
Minimum	<3	<10	27	3	<0.2	15	<1	70	6.5	2

*Concentrations are ug/L except pH (standard units) and Oil & Grease (mg/L). Metal concentrations are a flow weighted average of pollutants measured at each of the three outfalls between April 2000 and March 2002. Concentrations of cadmium, chromium, mercury and silver have been generally below detection levels. Average values for pollutants in this table were calculated assuming that pollutant concentrations reported as less than the detection limit were present at the detection limit (i.e., a value reported as <3 was assumed to be 3 in these calculations). Hence, average values represent an upper bound on the average.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The more stringent of these two limits (technology or water quality-based) must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below. The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology and water quality basis and the limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported and they are not controllable at the source and they don't have a reasonable potential to cause a water quality violation. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

BEST MANAGEMENT PRACTICES (BMPs)

The permit requires Atlas to implement its Stormwater Pollution Prevention Plan. Atlas submitted its Final Stormwater Pollution Prevention Plan (SWPPP) to Ecology in March, 1997 to satisfy Condition 1 of Administrative Order No. DE 95WQ-S161 Second Amendment and Condition 2 of the Settlement Agreement between Atlas Foundry and Machine Company and the Department of Ecology (effective date November 20, 1995). The SWPPP addresses general “best management practices” (BMPs).

The permit also requires Atlas to implement several additional source control best management practices to prevent stormwater contamination including: weekly sweeping, monthly inspection of dust control systems; a requirement to store liquids under cover; a prohibition on allowing sand to accumulate outside of buildings; a requirement to store materials so that they do not come in contact with stormwater; and maintenance of the oil-water separator according to the manufacturer’s recommendations, and the infiltration basin according to the engineer’s recommendations. Many of these BMPs are required under the current permit.

The permit also requires Atlas to treat its stormwater using an oil/water separator and infiltration through an engineered sand bed with bypass to surface waters only during extreme storm events.

The section on *Groundwater Quality-Based Effluent Limitations* contains additional detail on effluent limits based upon implementation of these BMPS (AKART limits).

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

Atlas discharges site storm water to an infiltration pond with provisions to bypass to surface waters if necessary to prevent foundry flooding. The conveyance system can accommodate flows up to the 2-Year, 24-Hour storm and the infiltration basin is sized to accommodate flows up to the 25-year, 24 hour storm. Atlas may bypass flows to the City storm drain and Foss waterway at flows higher than the conveyance system capacity to prevent flooding in the foundry. Because of the infrequent nature of these discharges to surface waters and expected dilution at high flows, Ecology does not feel that there is a reasonable potential to violate surface water quality standards. As a result, the permit does not contain numerical effluent limits for pollutants in the bypass. The permit does contain requirements that Atlas monitor each by-pass.

GROUND WATER QUALITY LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. Drinking water is the beneficial use generally requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

Atlas's discharges have generally been below the state's numeric criteria but above background levels (Table 4). Concentrations for cadmium, chromium, silver, mercury and chromium in stormwater were generally below laboratory method detections limits during the last two years.

Table 4 Ground Water Quality Criteria, Groundwater Background Data, and Stormwater Quality Data (April 2000 –March 2002)

Parameter	Criteria	Background	-----Effluent concentration -----			
			Total	Total	Dissolved	Dissolved
			Average	Range	Average	Range
Cadmium, µg/L	10	<3	3	<3-3.5	<3	<3 - 3
Hex Chromium, µg/L	50	<10	<10	<10 – 20	<10	<10-20
Copper, µg/L	1000	<6 - 10	144	27 - 590	14	6 -58
Lead, µg/L	50	<1	16	3 - 58	3	<1 - 13
Mercury, µg/L	2	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel, µg/L	100	<15 - 22	181	15 - 712	27	15 – 96
Silver, µg/L	50	<2 - 5	2	<1 - 4	<2	<2 - 2
Zinc, µg/L	5000	<6 - 12	765	70-1466	217	29 - 725
pH		6 – 6.28	7.6	6.5 –8. 9		
Oil & Grease		< 0.2	4	2 - 11		
Bis (2-ethylhexyl) phthalate, µg/L	6	< 10		7 – 32		

ENFORCEMENT LIMITS AND EARLY WARNING VALUES

Ecology sets enforcement limits based upon pollutant levels that the discharger will achieve after application of "all known, available and reasonable methods of prevention, control, and treatment" (AKART); and protection of groundwater quality.

AKART for stormwater control consists of "best management practices" (BMPs) that include, when appropriate (as in this case), treatment. Since the infiltration pond is designed to remove suspended solids, the AKART-based limit for metals in groundwater is based upon the dissolved metals concentrations in the effluent, the dissolved fraction representing the metals that will not be captured by the media. For metals, we used the dissolved data to calculate a 99th percentile value for a maximum daily limit, consistent with Ecology guidance. For BEP, we used the engineer's estimate of concentration in the discharge following treatment as the discharger's data on BEP is somewhat limited.

Ecology considers Washington State Groundwater Quality Standards, including the Anti-Degradation Policy, when setting enforcement limits. The goal of the anti-degradation policy (WAC 173-200-030) is the protection of existing groundwater quality that often is of higher quality than water that merely meets the numeric criteria. The anti-degradation policy allows some degradation of existing quality to occur where it has been demonstrated that beneficial uses would be protected (that is, criteria will be met), AKART has been applied, and an overriding consideration of the public interest has been served. The goal of the policy is to protect existing water quality through application of AKART.

Ecology also considered that the discharge overlies both the Central Pierce County Aquifer System and the South Tacoma Channel Groundwater Protection District. The Aquifer is a Sole Source Aquifer under the Federal Drinking Water Act, designated by EPA. The District was established by the City of Tacoma. Both designations seek to protect drinking water from contamination although neither precludes the discharge.

Ecology also considers the limits of analytical technology to measure pollutant concentrations when setting enforcement limits. If the practical quantification limit (or PQL) is greater than the AKART limit and numeric criteria – that is, if we lack the ability to accurately measure pollutant concentrations at the AKART limit or the criteria -- then Ecology sets the limit at the PQL.

Ecology is adopting the AKART limit for nickel and zinc because the AKART limit is achievable and the limit produces an effluent quality that protects background water quality with only limited degradation in a small area (Table 5). For copper, lead, and Bis (2-ethylhexyl phthalate (BEP), Ecology is adopting an enforcement limit at the PQL because the AKART limit and/or the groundwater criteria are below the PQL. Ecology is not adopting limits of requiring additional monitoring for cadmium, chromium, mercury and silver as the existing data indicate that these metals are absent from the discharge except for occasional, low level occurrences that do not threaten groundwater.

Ecology sets a point of compliance for enforcement limits as close to the discharge point as feasible to protect existing groundwater quality. The point of compliance for this discharge will be the monitoring wells next to the infiltration pond.

Ecology also sets early warning values for pollutants that have an enforcement limit above the background concentration. Ecology is setting an early warning value in groundwater for nickel and zinc at the approximate midpoint between background concentrations or PQL (whichever is higher) and the enforcement limit (Table 5). For copper, lead, and BEP, the enforcement limit is the PQL and there is no early warning value.

Table 5 Enforcement Limits in Groundwater, Early Warning Values in Groundwater, Background Groundwater Quality, AKART, Washington State Groundwater Criteria, Washington State Drinking Water Maximum Contaminant Levels / Federal Action Levels and Practical Quantification Limit

Parameter	Enforcement Limit	Early Warning Value	AKART	GW Criteria	MCL / FAL	PQL
Copper, µg/L	60		42	1000	1300*	60
Lead, µg/L	10		5	50	15*	10
Nickel, µg/L	100	75	100	100	100 ¹	50
Zinc, µg/L	660	340	660	5000	5000 ²	20
BEP, µg/L ³	10			6		10

* Federal Action Level for Drinking Water

²Secondary MCL

¹ Primary MCL

³BEP: Bis-2-ethylhexyl phthalate

EFFLUENT LIMITATION FOR DISCHARGE TO INFILTRATION BASIN

Ecology is setting effluent limits for discharges to the infiltration basin to protect groundwater, to ensure continued implementation of BMPS, and to ensure that the infiltration basin is protected from excessive sediment discharges that would reduce its effectiveness (Table 6). These limits are: a) for metals, the 99th percentile of flow-weighted effluent concentrations; b) for pH, the minimum and maximum pH in the discharge; and c) for Oil and Grease, effluent limits from the previous permit.

Table 6 Effluent Limits – Discharge to Infiltration Basin

Parameter	Daily Max.	Avg. Monthly Max	Range Within
Copper, µg/L	561		
Lead, µg/L	53		
Nickel, µg/L	659		
Zinc, µg/L	1455		
pH, s.u.			6.5 to 9
Oil & Grease, mg/L	15	10	

MONITORING REQUIREMENTS

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring. Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

All samples of groundwater shall be collected at the monitoring wells using low flow techniques as recommended in the "Implementation Guidance for the groundwater quality standards" (Ecology, Publication No. 96-02, 1996 or as updated). The discharger should:

1. Use a pump that causes minimal disturbance to the water in the monitoring well.
2. Pump at low flow rates (typically in the 0.2-0.3 liters per minute range) during purging and sampling.
3. Allow all field parameters to stabilize within 5% per casing volume removed, before collecting the sample.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

OTHER PERMIT CONDITIONS

REPORTING AND RECORD KEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges (WAC 273-220-210).

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.5. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

The operations and maintenance manual shall be inclusive of maintenance of oil/water separators, pumping equipment, and a process to address excursions of early warning values including but not limited to evaluation of existing best management practices, and treatment strategy (including replacing the sand layer for soils of higher cat-ion exchange capacity).

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. This plan shall not be at variance with any approved local solid waste management plan.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the Permittee to control its production in order to maintain compliance with its permit. Condition G10 prohibits the reintroduction of removed substances back into the effluent. Condition G11 states that the Department will modify or revoke and reissue the permit to conform to more stringent toxic effluent standards or prohibitions. Condition G12 incorporates by reference all other requirements of 40 CFR 122.41 and 122.42. Condition G13 notifies the Permittee that additional monitoring requirements may be established by the Department. Condition G14 requires the payment of permit fees. Condition G15 describes the penalties for violating permit conditions.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued a period not to exceed 5 years.

References

United States Environmental Protection Agency. 1983. Water Quality Standards Handbook. USEPA Office of Water

United States Environmental Protection Agency. 1991. Technical Support Document for Water Quality-Based Toxics Control EPA/505/2-90-001.

United States Environmental Protection Agency. 1992. National Toxics Rule. Federal Register Vol. 57, No. 246.

Washington State Department of Ecology. 1994. Permit Writers Manual. Pub. No. 92-109

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department will publish a Public Notice of Draft (PNOD) in the Tacoma News Tribune to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Industrial Permit Coordinator
Department of Ecology
Southwest Regional Office
Water Quality Program, Industrial Operations Unit
P.O. Box 47775
Olympia, Washington 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6280, or by writing to the address listed above.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for “all known, available, and reasonable methods of treatment”.

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Practical Quantification Level (PQL)-- The lowest concentration of a substance that can be reliably achieved within specific limits of precision, accuracy, representativeness, completeness, and comparability during routine laboratory operating conditions.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--RESPONSE TO COMMENTS

Ecology accepted comments on the draft permit over a 30-day period in late October and early November, 2002. By the close of the public comment period (November 12, 2002), Ecology had received comments from the following interested parties:

- Citizens for a Healthy Bay, Tacoma.

After a review of comments, Ecology staff recommended that the draft permit be issued without change. This Response to Comments is an addendum to the fact sheet for this permit.

Comments and Responses follow:

Comment: Prior Record of Compliance: *The Violation report on file at Washington State Department of Ecology show that the Atlas facility was in violation of their permit 464 times from January 1, 1995 through April of 2003.*

Response: The fact sheet (Page 5) notes that “until recently, inspectors have noted numerous violations of permit source control requirements.” Ecology has fined the company for these violations and issued orders to compel source control work. Ecology’s work with the discharger goes back several years. Ecology’s April 2002 inspection report documents recent compliance activities:

March 2000	Ecology re-issues order to cease non-stormwater dischargers and investigate potential non-stormwater related discharges.
February 2001	Ecology approves a supplemental engineering report recommending diversion of stormwater dischargers out of the City storm drain system that discharges to Foss waterway, to infiltration.
September 2001	Atlas submits progress report on identifying metals in roof drain discharges, concluding that roof paint is the metals source.
October 2001	Ecology concurs with metals source conclusion.
March 2002	Atlas submits progress report on stormwater compliance.
March 2002	Atlas completes construction of an infiltration basin and diverts discharges to ground.
April 2002	City of Tacoma Public Works Dept. issues zero discharge permit.

During a July 2001 inspection, Ecology staff noted several permit violations. By April 2002, Atlas had completed its source control work and was largely in compliance with permit conditions. The April 2002 inspection report concludes that, “Atlas’s source control efforts appear to be greatly improved compared to last year’s visit. Additionally, Atlas’s discharge data shows marked improvement for several parameters.”

The statement that, “until recently, inspectors have noted numerous violations of permit source control requirements” may understate Ecology’s past work with this discharger. The statement is brief but for the Fact Sheet it is sufficient. Interested parties can contact Ecology for additional detailed information regarding past activities at the site.

Comment: On-site Infiltration Pond. *The installation of an onsite infiltration pond should help prevent direct contamination of Commencement Bay from routine direct discharge. ... The forecast of another El Nino-La Nina weather pattern ...could result in more frequent storm events that would create the need for bypass. A secondary containment system and/or filtration and stormwater treatment system should be implemented to prevent discharges of toxins into the Thea Foss Waterway.*

Response: Ecology requires dischargers to treat stormwater flows up to a specified design storm. For discharges such as this one that are covered under an individual permit, the design storm has a two-year recurrence interval, as described in Appendix 6 of Ecology's Permit Writer's Manual.

Use of the two-year storm is based upon the judgment of Ecology staff that bypasses arising from the design storm or higher flows should not violate water quality standards due to the low frequency of occurrence of such storms and the increased dilution at the high flows associated with low recurrence interval events. Ecology staff expect that continued implementation of source control and use of the infiltration basin are sufficient to protect water quality.

Comment: Groundwater Protection. *The discharge pond is situated over the Central Pierce County Aquifer System. ... The change from surface water discharge to groundwater discharge has the potential to inflict long-term damage to groundwater and human health. It is vital that groundwater quality be protected. A plan for maintenance and inspection of the infiltration pond is imperative as is aggressive enforcement if necessary.*

Response: The permit sets enforcement limits in groundwater that are at or below numeric groundwater standards and practical limits of quantitation. The point of compliance for these limits is in the groundwater adjacent to the infiltration basins. Additionally, the permit requires the discharger to define in an Operations and Maintenance Manual steps it will take should groundwater exceed early warning values in monitoring wells. Hence, the permit protects groundwater quality in the area of the discharger and beyond.

Comment: Early Warning Values in Groundwater. *We do note the early warning values for nickel and zinc in the permit. We also understand that early warning limits for copper, lead and BEP were not set due to the inability of current available technology to accurately detect these pollutants at levels lower than the enforcement limits.*

Response: Correct. Ecology did not set early warning values for copper, lead and BEP because the enforcement limits themselves were at the limits of practical quantitation.

Comment: Surface water quality-based effluent limitations. *The permit does not contain numerical effluent limits for pollutants in the bypass, citing that Ecology “does not feel that there is a reasonable potential to violate surface water quality standards.” This position is not based on scientific fact, but rather the assumption that that these flows will be “infrequent” and “expected to be diluted by high flows.” If the Atlas permit is going to contain a permitted bypass discharge to surface water, effluent limits for surface water need to be set and enforced.*

Response: Neither Ecology or EPA sets limits for a discharged pollutant based solely on presence in the discharge. Consistent with federal regulations, the agencies set limits for a pollutant if there is a “reasonable potential” to violate standards. In some instances, the reasonable potential analysis is quantitative. In other cases, reasonable potential is a matter of judgment. In this case, Ecology staff expect as a matter of judgment that bypasses arising from the design storm or higher flows should not violate water quality standards due to the low frequency of occurrence of such storms and the increased dilution at the high flows associated with low recurrence interval events and the probabilistic nature of the standards themselves.

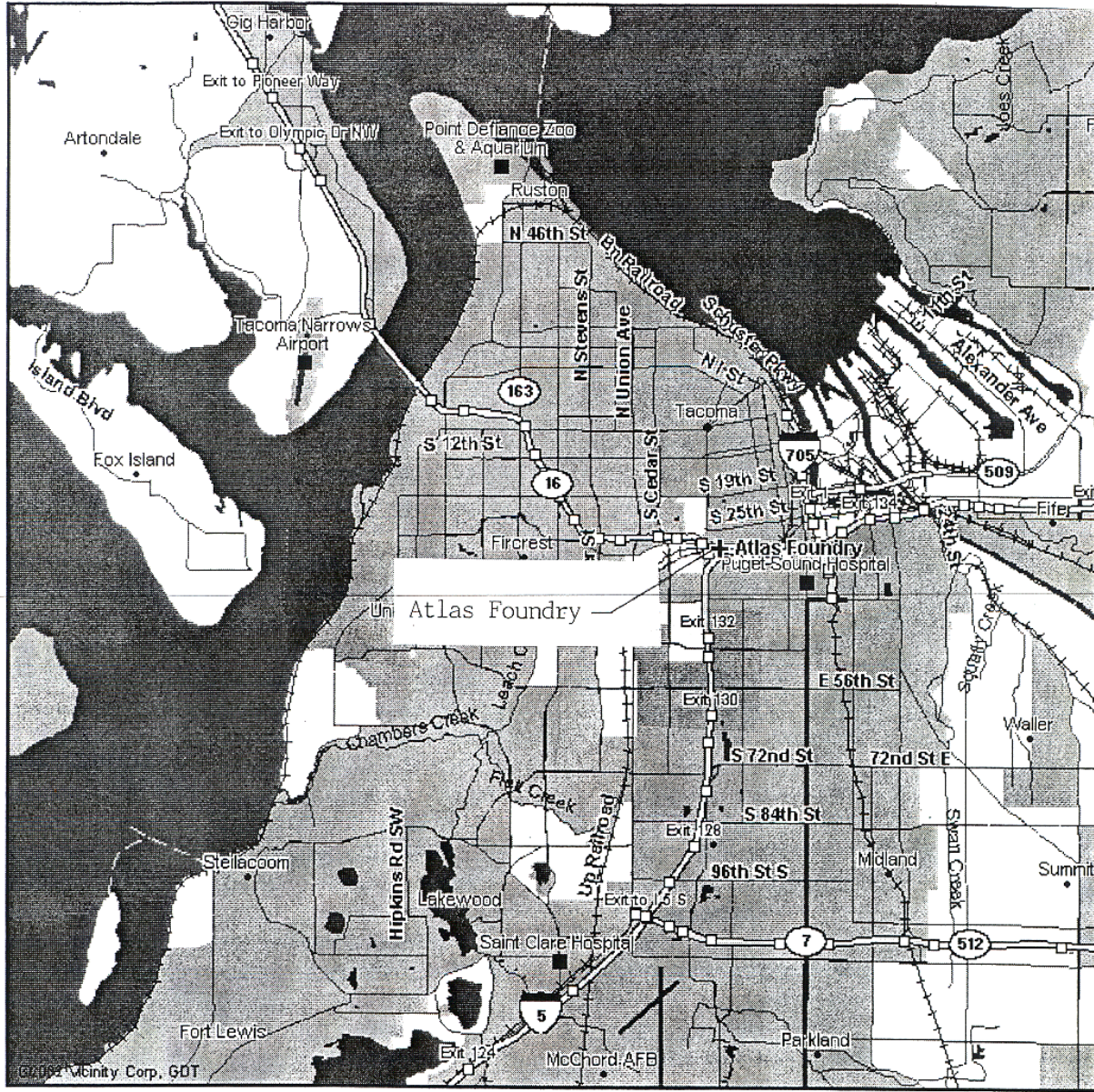
Comment: Ground water quality limitations. *We concur that the limits be based on drinking water standards as it provide the greatest protection (sic).*

Response: Ecology took several factors into account in setting enforcement limits, including:

- pollutant levels that the discharger will achieve after application of "all known, available and reasonable methods of prevention, control, and treatment "(AKART); and protection of groundwater quality
- Washington State Groundwater Quality Standards, including the Anti-Degradation Policy,
- the location of the discharge, above the Central Pierce County Aquifer System and within the South Tacoma Channel Groundwater Protection District.
- the limits of analytical technology to measure pollutant concentrations when setting enforcement limits.

In some cases, enforcement limits are well below numeric groundwater and drinking water standards because the discharger can achieve such limits with the infiltration basin - a reasonable method of treatment. For additional discussion, see the Fact Sheet, Table 5, page 10.

APPENDIX D—VICINITY MAP



[Icon Latitude: 47.2329651, Longitude: -122.458897]

Figure 1 Atlas Foundry Vicinity Map